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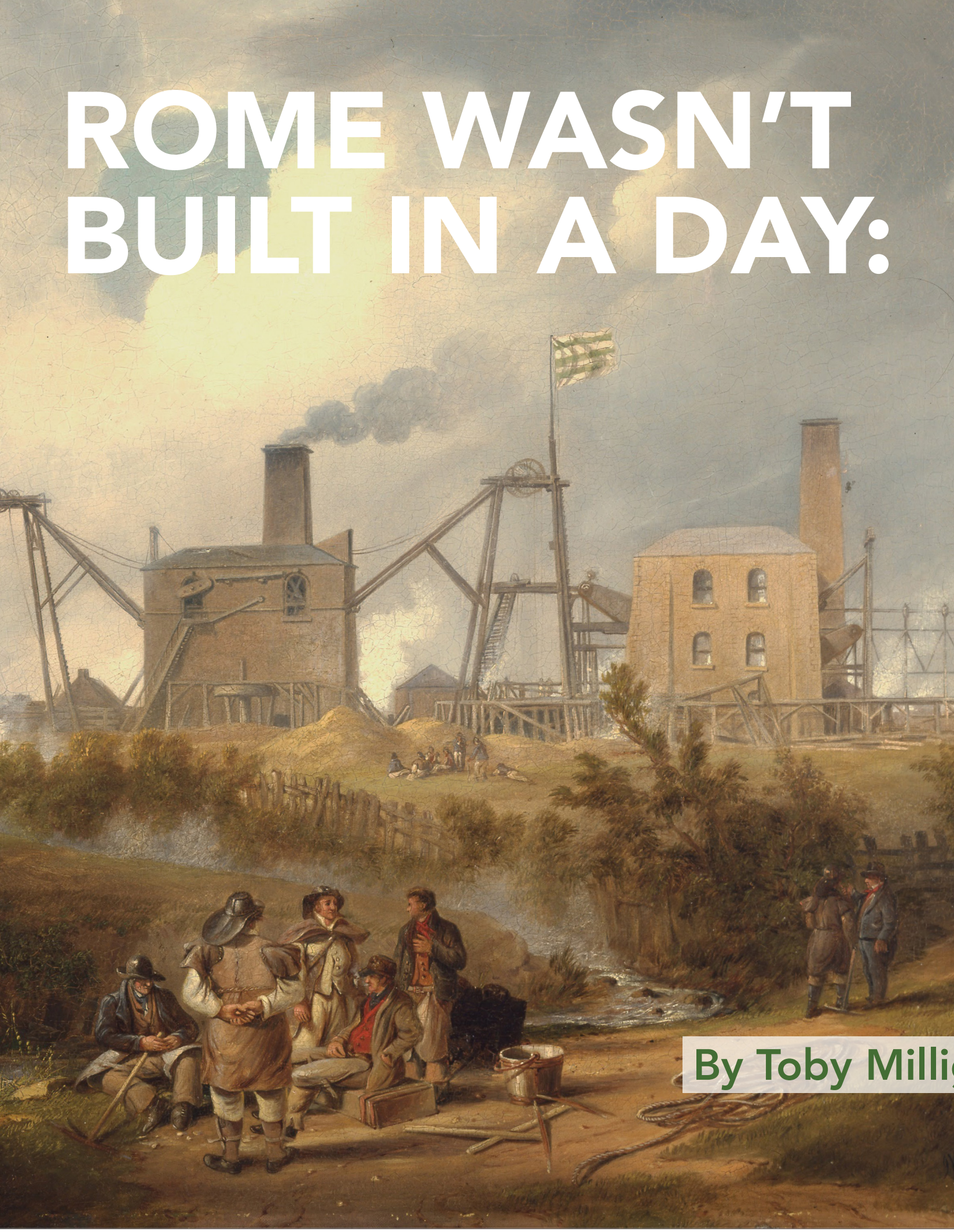

By Toby Milli

CHANGING THE WORLD'S ECONOMICS

With very few exceptions, the prevailing world economy is characterised by the neoclassical models that have existed with little change since the dawn of the industrial revolution. At the crux of such economic theory is the free-market, which leans on the assumption that every agent acts rationally to maximise welfare. Every facet of our economic model theoretically generates wealth. Firstly, we might ask ourselves: how has our system done this without consequence? The real answer is that it hasn't. Acting as agents within the broader sphere of the environment, we have been initially blessed with a huge resource pool and a relatively spacious and unspoiled world. However, as time has progressed, the neoclassical model's reliance upon the ideas of free resources and free disposal have led to the emergence of significant, mostly environmental, issues. Our economic system has wrongly presumed that the infinitely increasing our welfare is possible with our finite natural resource base. What society has seen now is the falsehood of this statement: manmade and natural resources are complements: not having one or the other renders the production of wealth impossible, shattering this idea of infinitely extrapolative welfare. Our false assumptions have led humankind to historically extort the earth of its resources and dispose of the associate waste freely. It is only now, as society reaches a critical phase, that we are starting to realise the consequences of our actions. Although wealthier and scientifically more advanced, society exists in a precarious position.

Global warming and general pollution are significant threats stemming from our presumed gift of free disposal, meanwhile the essential commodities that mankind relies upon have not been given the opportunity to replenish themselves. Our current model has seen quantity over quality prioritised economically with disastrous consequences for our complex global ecosystem. Fundamentally, we have failed to employ existing resources in a balanced way, such that we are able to meet our future needs. The world that we live in is characterised by complex adaptive systems, where actions taken in the realm of the economy fundamentally influence the ecosystem, which in turn influences the economy. Yet, the effects of this are often felt by people other than those which make these decisions that affect the environment. This leads to one of the most prominent human criticisms of the capitalist model: often those that benefit do not incur the external costs associated with the profit that they make.

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INTRODUCING EXTERNALITIES INTO THE EQUATION

Thus, it is necessary to explore the notion of society's unsustainable, quantity orientated, growth as being uneconomical growth. Our economic system judges its progress by GDP growth. GDP growth should not be ignored and does play a role, but should it be the defining way in which we judge economic prosperity? GDP growth is a measure of an economy's output, and thus consumption, has changed a given period of time. On the surface, GDP growth was previously not a bad measure of economic success: in the relatively unspoiled and undeveloped world of the 19th and 20th centuries, when externalities did not pose a significant threat to our existence and resources were plentiful. Whilst this is still somewhat the case, our depletion of resources and pollution of the atmosphere, land, and sea, has led to significant external costs that are borne by a third party, representing injustice. This gives rise to the idea that"growth past the optimum must be uneconomic – in the strict sense that it increases costs more than benefits, thus making us poorer, not richer". Many countries are in this so-called phase of uneconomic growth, whereby the deterioration of natural and human capital as a result of production will begin to see declining wealth. Society, however, fails to recognise this, in part due to our out-dated economic models. Investors judge the merits of the investment on grounds of future cash flows, and whilst this may suit the investor and generate large profits for him, when looking on a macro, societal level, this seemingly 'economic' investment becomes uneconomical: the assessment of the investment's merits fails to acknowledge the long term, external impact of burning coal, for example, on the ecosystem. In this case, the external impact of the pollution that a hypothetical coal plant produces is sufficiently large such that were external costs priced into the investment rationale of the investor, the investment would be a bad one. However, because external costs are not borne by the investor, but rather by society as a whole, the investment is made. This stands as one of the fundamental flaws of our current capitalist system: our economic models fail to recognise that we live in an era of 'uneconomical' growth because our economic tools do not recognise external costs properly.

COMPLEX BIOGEOCHEMICAL SYSTEMS

In the vacuum of such considerations, ecological economics was established to explore "the strategies to change our economic system in order to obtain sustainability or the deep

Daly, Herman, Ecological Economics and Sustainable Development, Selected Essays of Herman Daly. (Cheltenham, Edward Elgar, 2007), 9.

Ibid, 28.

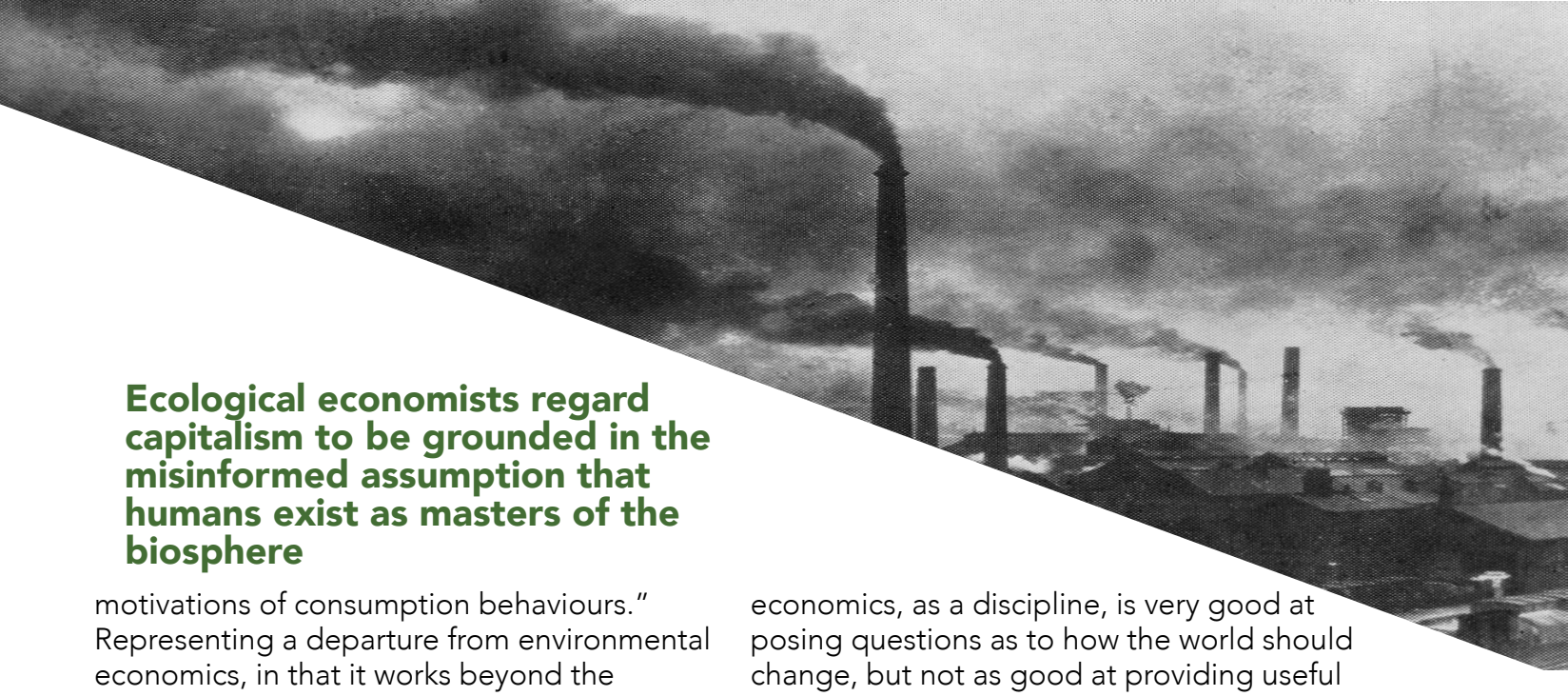
Nairn, Michael, "Metropolitian Nature, A Retrospective," 2015.

Daly, 10.

Campiglio, Emanuele, "Ecological vs Environmental Economics," New Economics, n.p, (2011).

Brown, Peter, and Peter Timmerman, Ecological Economics for the Anthropocene, (New York, Columbia University Press, 2015), 3.

Ibid, 10.



Ecological economists regard capitalism to be grounded in the misinformed assumption that humans exist as masters of the biosphere

motivations of consumption behaviours." Representing a departure from environmental economics, in that it works beyond the neoclassical, reductionist, economic model, ecological economics views the human economy as embedded in and part of earth's biogeochemical systems. Ecological economists regard capitalism to be grounded in the misinformed assumption that humans exist as masters of the biosphere and that we can use what the planet has to offer as we please with little negative impact, with the earth facing both societal and environmental ruin as a result. Such economic theory finds the solution to the earth's problems to be a complete shift of paradigm, away from neoclassical models to a new, sustainability-oriented system. The rationale for this new economic order is that our present system is based upon outdated scientific understandings, for example that the burning of fossil fuels is harmless, and that our economic systems must change accordingly. It introduces complex adaptive systems, essentially acknowledging that we are part of a larger ecosystem and must recognise the effects can become causes. Ecological economists believe that at the centre of the crisis that the world faces is humankind's love for consumption, which in turn leads to a questioning of fundamental economic rationality. The proposed solution is one in which justice, the economy, and the environment exist in a sustainability-fostering balance, whereby the earth is respected and society is simultaneously able to advance respecting the fragile and finite nature of the earth. But is such a shift realistic? We may recognise that ecological economics, as a discipline, is very good at posing questions as to how the world should change, but not as good at providing useful answers. This is the fundamental weakness of ecological economics: it poses good question for economists to consider, such as what is a vision for an ideal world, but fails to provide the tangible, real policy suggestions that the world needs. The suggestions of ecological economists that we should move into a post-growth model under which humankind's role is to act as a steward over nature and nothing more is a change that would be as disruptive as it would be challenging. However useful the questions posed, ecological economics is overly idealistic and truly not up to the challenge of solving our current issues.

Ibid, 9.
Wierenga, Marlies, "A Brief introduction to environmental economics," 2009.
Brown, and Timmerman, 241.

ANOTHER BREED OF ECONOMICS

Environmental economics, another breed of thinking that has sprung from the realization of such externalities, offers a different view point. It seeks to address the issues of environmental justice that the world faces through the neoclassical framework of models. At its core is the balancing of economic activity with environmental impacts by considering all the associated costs and benefits. By pricing in 'external costs' such as resource depletion and pollution, models of environmental economics seeks to achieve sustainable development through the market system: when the internalisation of externalities, such as pollution, occurs, the costs of production are increased,

therefore meaning that demand falls and therefore, in this case, so too does pollution. Whilst the internalisation of externalities is opposed by some environmental economists, others consider the price mechanism as key to sustainable development. This represents a very realistic and plausible manner in which humankind can begin to tackle the environmental issues that our consumption and economies cause. Environmental economics is therefore best positioned to address the issues we face, and is able to do so given its operation within the existing capitalist, neoclassical framework. It can be seen as a comparatively non-intrusive (because of the usage of the free market) way for economies to adapt to new ecological constraints. Broader integration of externalities into the price mechanism, however, require careful policy implementation. It is essential that universal adoption takes place, as to prevent local and national economies from profiteering from cost advantage discrepancies. Otherwise, a relative decrease in environmental damage may occur in some areas alongside expanding production in others, actually making the environment worse-off as in absolute terms, increasing overall pollution. This is an inevitable hurdle that environmental economists face in the longer term, but certainly is not of critical nature of the broader policy prescription of environmental economics. Despite such drawbacks, environmental economics is the only feasible way to bring the necessary changes to our socio-economic systems to bring sustainable development through government mandated regulations within the neoclassical economic system.

Environmental economics is therefore best positioned to address the issues we face.

BUILDING ROME

Given the merits of environmental economics, society should internalise external costs into the neoclassical economic model across all industries. But to what extent is this already the case? Since the 1980s, consensus has begun to build concerning the influence of human economic activities on the environment. With such consensus has come the steady implementation of environmental regulations working both to implement quotas and influence the free-market price of goods that cause environmental degradation. Although society is a long way off sustainable development, projects such as the European Union's Emissions Trading System show the progress that has been made. This takes us to the saying "Rome wasn't built in a day." Whilst the threat faced in climate change and general environmental issues is significant, when talking about a significant change in that way economies operate, it would be wrong to expect change to happen overnight. The world is at a stage whereby society understands the threats that are faced, and change is underway. Environmental economic theory is allowing a new phase of capitalism to rise, as part of which society is understanding how the economy can act within the broader ecosystem, without the sort of revolution in how humans live that ecological economics advocates. It would be unfair to judge the progression of environmental economics in terms of the prevalent symptoms that must be treated, as change takes time.

Tobias Milligan is a sophomore in the College. He is majoring in economics and is particularly interested in its intersection with environmental policy.